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Published in:
Journal of Transport Economics and Policy

Publication date:
2014

Document Version
Early version, also known as pre-print

[Link back to DTU Orbit](#)

Citation (APA):
Abate, M. A. (2014). Determinants of Capacity Utilization in Road Freight Transportation. *Journal of Transport Economics and Policy*, 48(1), 137-152.

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Determinants of Capacity Utilization in Road Freight Transportation¹

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First Draft: July, 2011

This draft: September, 2012

Abstract

Recent performance figures in the European road freight transport sector show that there is an excess capacity. To shed light on this phenomenon, this paper studies two aspects of capacity utilization in trucking: the extent of empty running and the load factor. The paper shows that they can be explained as a function of truck, haul and carrier characteristics. The econometric framework takes in to account the selectivity bias that arises because the load factor is observed only for loaded trips. The paper uses a unique dataset from the Danish heavy vehicle trip diary, which has detailed information about operations at a trip level. The results indicate that trip distance and being a for-hire carrier have a significant positive effect on capacity utilization, whereas the effect of truck size appears to be non-linear. To the extent that these variables improve the load factor and reduce empty runs, the vehicle kilometers driven from trucking can be lowered, which would in turn enhance performance.

Keywords: capacity utilization; load factor; empty running; freight transportation

JEL classification: R0 L91

Forthcoming in: *Journal of Transport Economics and Policy*.

¹ Forthcoming in: *Journal of Transport Economics and Policy*.

